MILL CREEK 2 AND 3 HYDROELECTRIC SYSTEMS, MILL CREEK 3 SANDBOX
Mill Creek
Yucaipa vicinity
San Bernardino County
California

HAER No. CA-2272-J

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

FIELD RECORDS

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of Interior
1111 Jackson Street
Oakland, California 94607

HISTORIC AMERICAN ENGINEERING RECORD

MILL CREEK 2 AND 3 HYDROELECTRIC SYSTEMS,
MILL CREEK 3 SANDBOX

HAER No. CA-2272-J

Location: The Mill Creek 3 Sandbox (MC 3 Sandbox) is located approximately 322 feet northwest of the Mill Creek 3 Intake (MC 3 Intake) and is located on USGS topographic map Forest Falls (Section 13; T. 1S., R. 1W.).

Significance: The Mill Creek 3 Sandbox is one of the key components of the Mill Creek 3 Hydroelectric System (MC 3). The MC 3 Sandbox allows sand and gravel to settle out of the water before traveling to the powerhouse. If this is not done, the abrasiveness of the sandy water would rapidly wear out the water wheel and related equipment. MC 3 is one of the earliest examples of a high-head hydroelectric system within the United States and one of the first commercial three-phase alternating current stations in California. Three-phase alternating later became the industry standard.

Description: Located approximately 322 feet northwest of the MC 3 Intake. The MC 3 Sandbox was constructed in same design as the sandbox for MC 2. It is 52 feet wide (east to west) and 102 feet long (north to south).[67] It has eight settling chambers with concrete cross walls. Each chamber is V-shaped in order to help collect the sand, which is then sluiced through gates at the lower end of the sandbox. The water enters from the southeast corner of the sandbox through bypass gates. At the south end of the sandbox there is a trash rack to help keep debris out and there is a leaf rack, which is no longer operational, that used to keep leaves away from the sandbox screen. There is a stilling well used to monitor the water level in the sandbox. Eight drain gates line the western edge of the sandbox, one for each section of the structure. Connected to the southwest corner of the sandbox, and located west of the sandbox, is the get away channel. This feature is made of rubble stone embedded in concrete and is used to drain excess sandbox water. This feature is also used drain the sandbox during routine maintenance.

History: The MC 3 Sandbox was constructed as part of the Mill Creek 3 Hydroelectric System. The MC 3 system was constructed between 1899 and 1903 by the Redlands Electric Light and Power Company, later absorbed by Edison Electric Company of Los Angeles in 1901. MC 3 is still in operation today and is owned by Southern California Edison. Please see the Historic Context section in the general Historic American Engineering Record for the Mill Creek 2 and 3 Hydroelectric Systems (HAER No. CA-2272) for additional information.

Sources:

Fowler, Frederick Hall. *Hydroelectric Power Systems of California and Their Extensions into Oregon and Nevada, Water-Supply Paper 493*. Washington, D.C.: Government Printing Office, 1923.

---

[1] Darrell W. Heinrich, Project Manager, Eastern Hydro Division, Southern California Edison, telephone interview by Christeen Taniguchi, November 18, 2008.

[67] Frederick Hall Fowler, *Hydroelectric Power Systems of California and Their Extensions into Oregon and Nevada, Water-Supply Paper 493*, Washington, D. C.: Government Printing Office, 1923, 601.

White, David R. M. "Cultural Resource Management Plan for the Southern California Edison Company Mill Creek Hydroelectric Project (FERC Project No. 1934) San Bernardino County, California," June 1993.

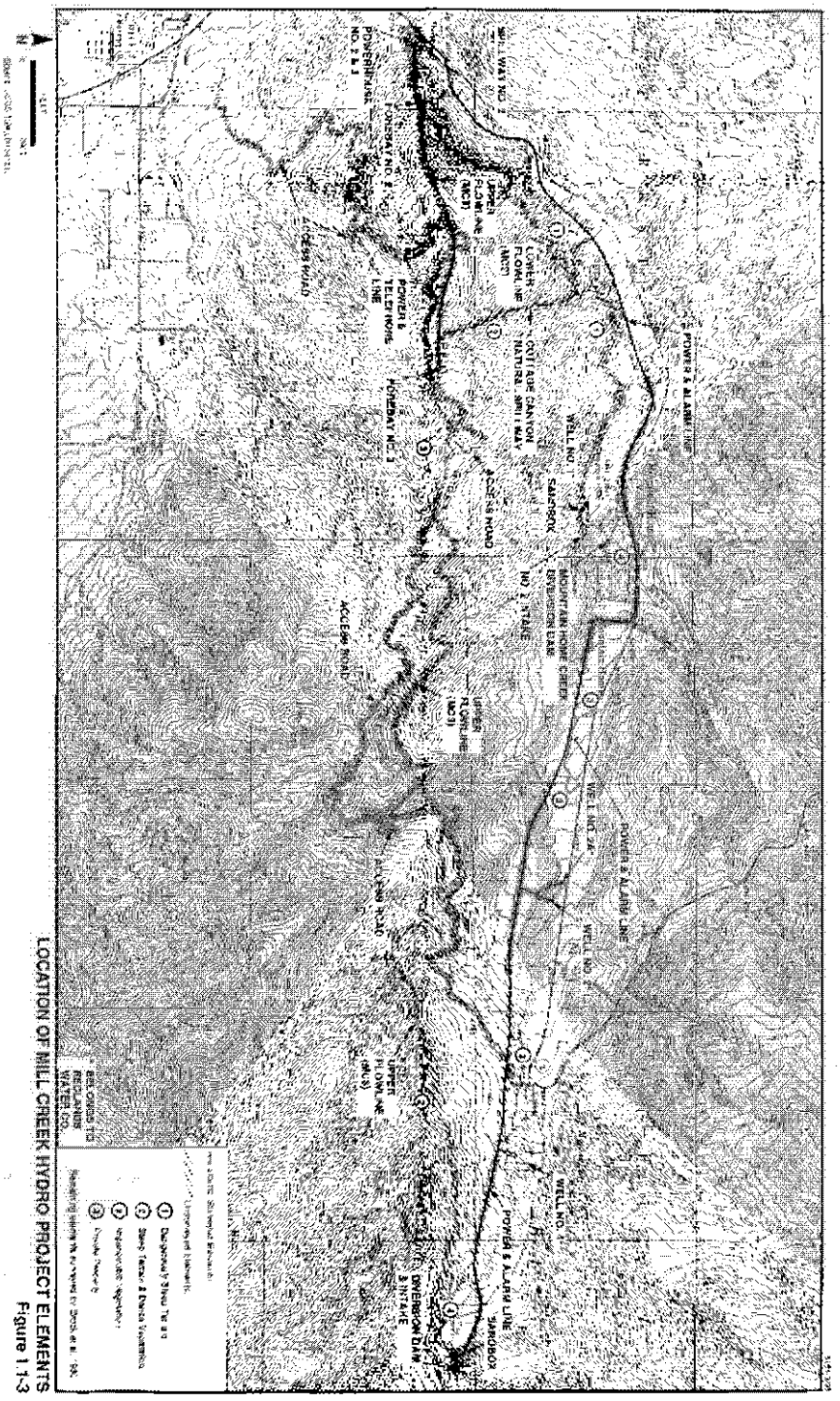
Low, George P. "The Generating, Transmission and Distribution Systems of The Edison Electric Company of Los Angeles, Cal.," *The Journal of Electricity, Power and Gas.* vol. XIII, no. 1. January, 1903.

"Means Much to Redlands: Big Light and Power Deal Closed," *Los Angeles Times.* May 25, 1901, 8.

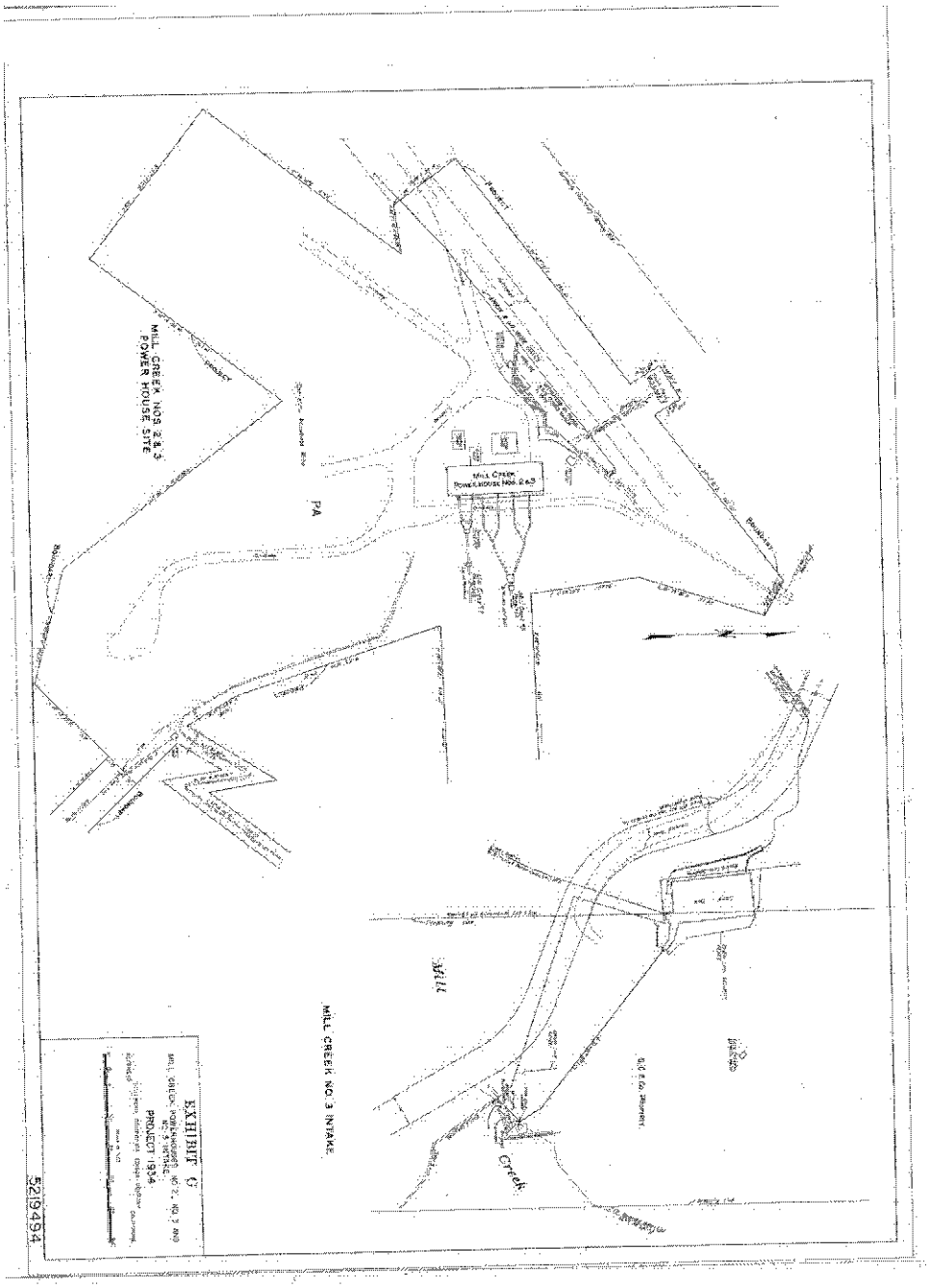
"Redlands Electric Light & Power Co., Edition Electric Co. of Los Angeles, Mill Creek Powerhouses," *National Register of Historic Places Inventory – Nomination Form*, April 30, 1985, item number 7, 10.

Historian: Christeen Taniguchi, Senior Architectural Historian, and Nicole Collum, Architectural Historian II, Galvin Preservation Associates, 1611 S. Pacific Coast Highway, #104, Redondo Beach, CA 90277, 2008-2009.

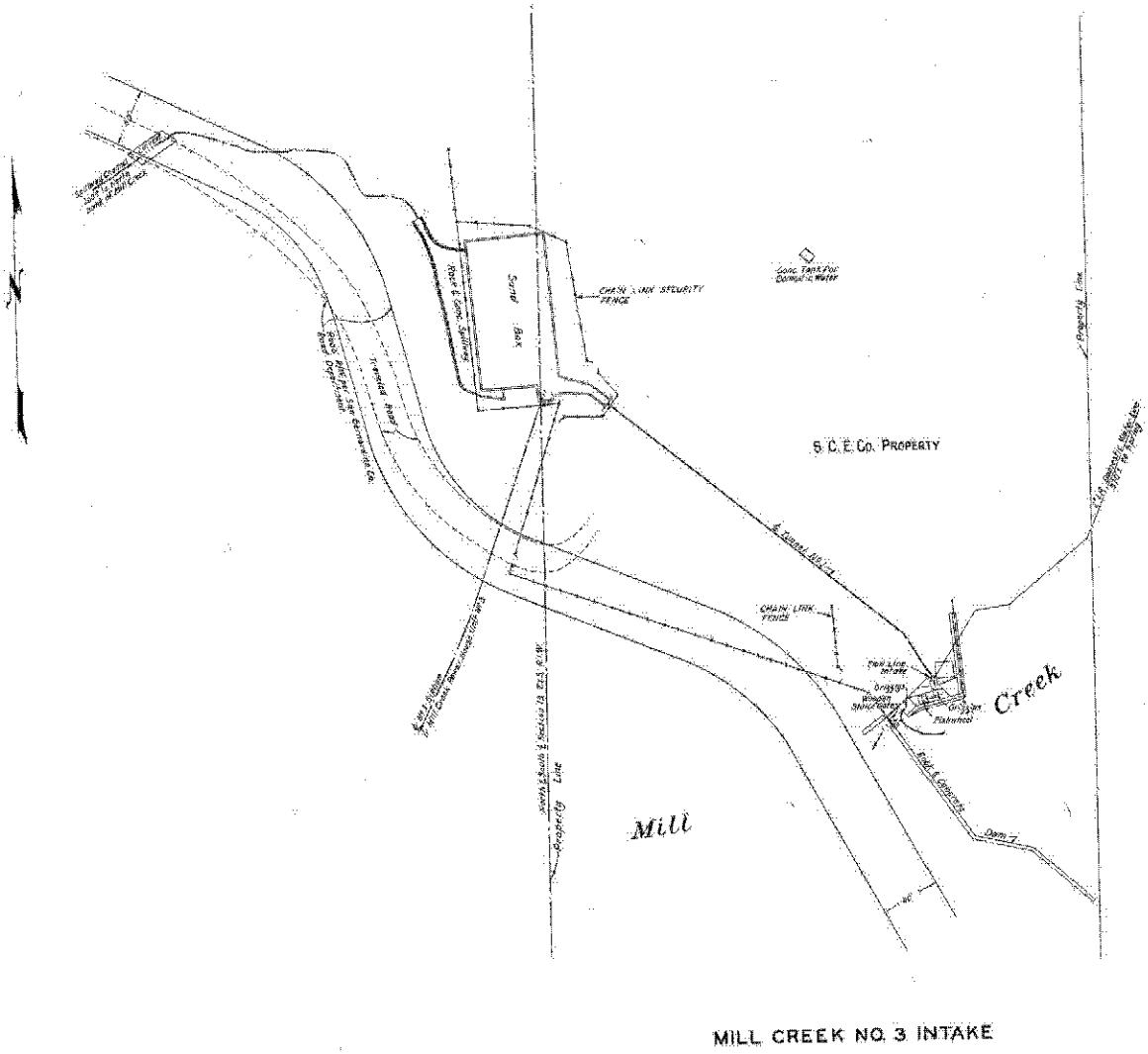
Project Information: MC 2 has not operated since 1992 when it was damaged during floods. It was not, however, decommissioned. The Southern California Edison Company, in conjunction with the San Bernardino National Forest, the agency that owns the property, proposes to formally decommission the facility. This process will include filling the sandbox and forebay with slurry, and removing the metal features. Although MC 3 is still in operation, it is also being recorded as part of this project because of the system's close association with MC 2.



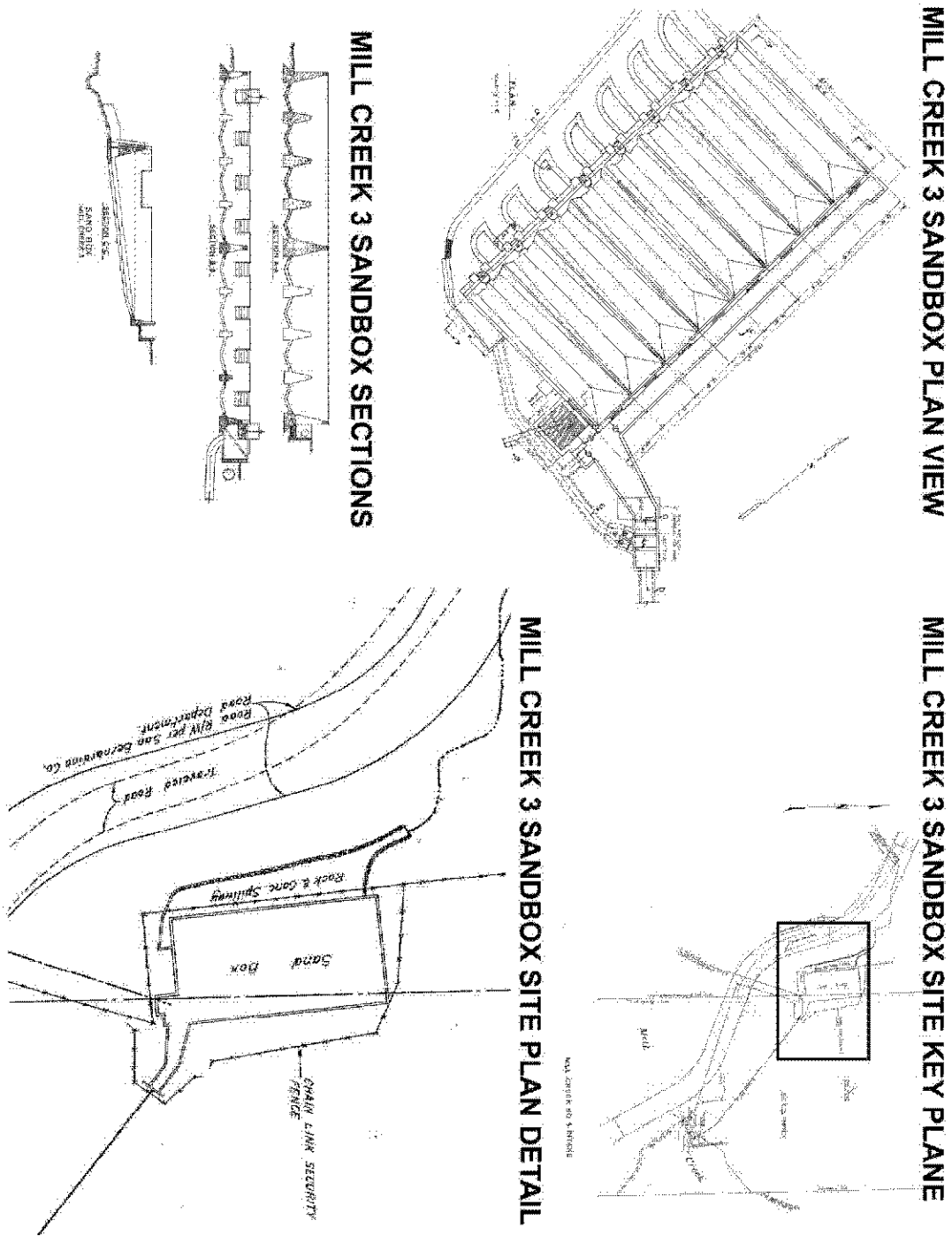
Location of Mill Creek Hydro Project Elements. (Map Courtesy of Southern California Edison)



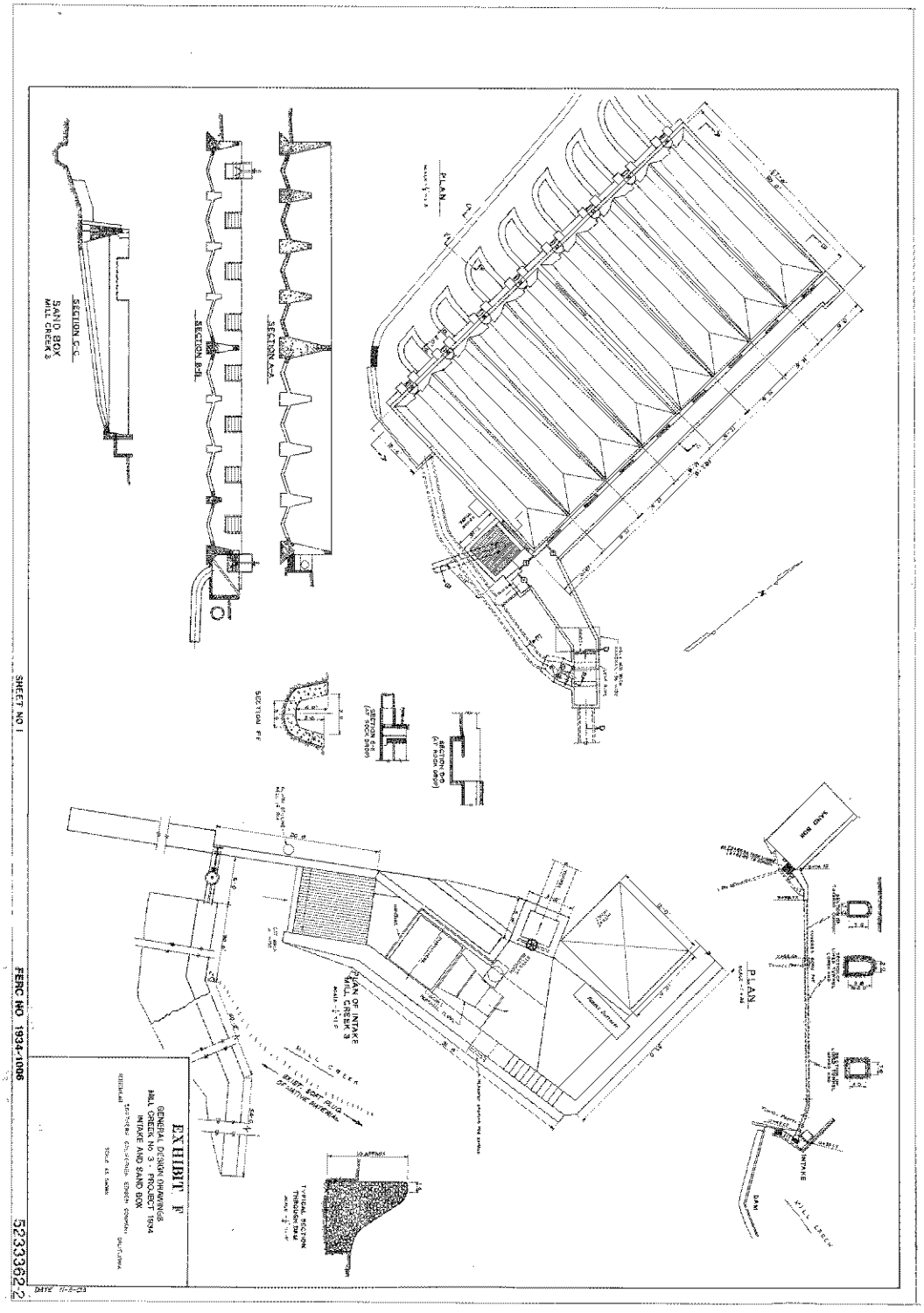
Site Plan for Mill Creek 2 and 3 Powerhouse and Mill Creek 3 Intake and Sandbox. (Plan Courtesy of Southern California Edison)



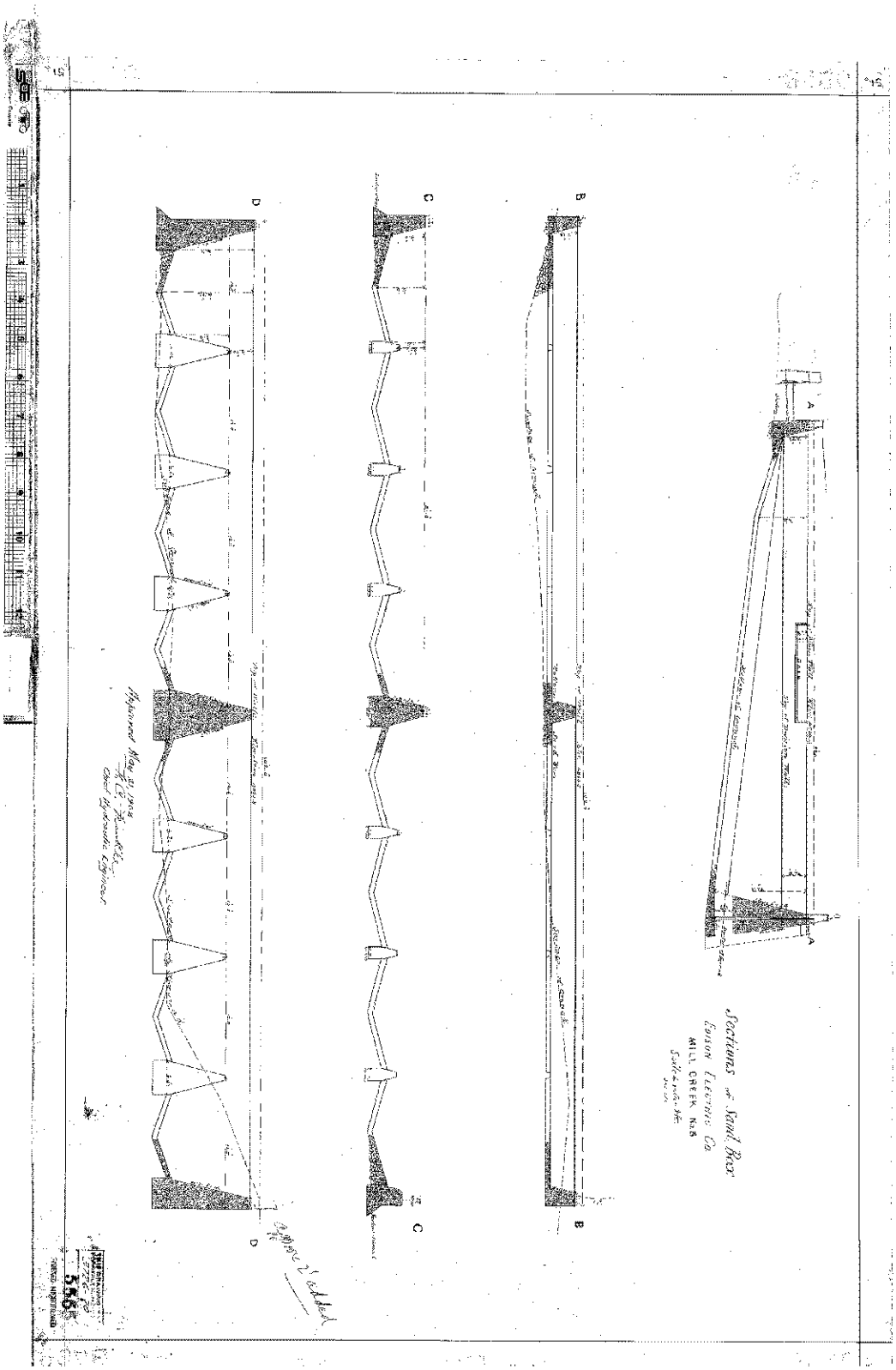
Mill Creek 3 Intake and Sandbox Detail Taken From Previous Site Plan (Courtesy of Southern California Edison).



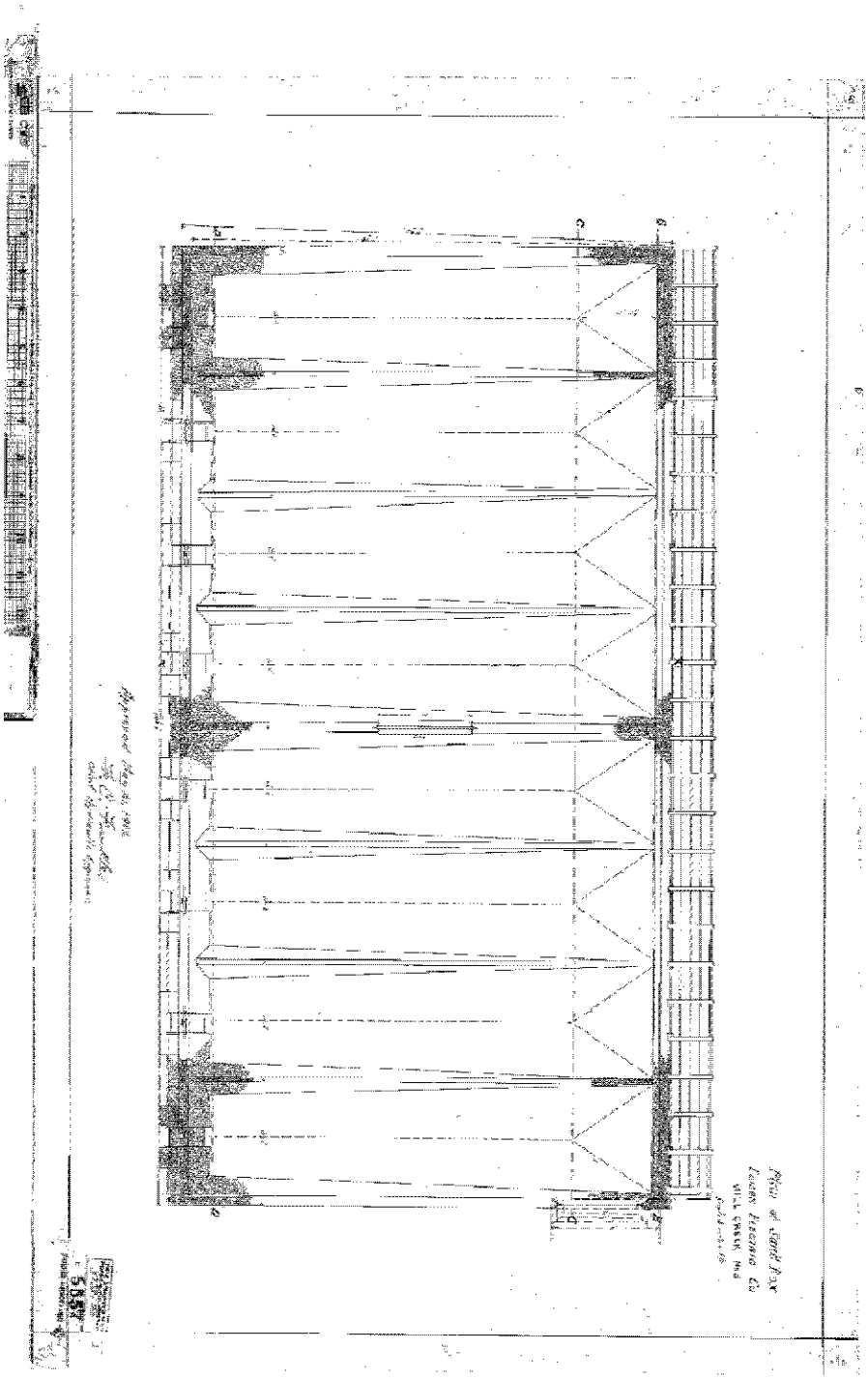
Mill Creek 3 Sandbox Site Plan and Drawing Details (Plan and Drawings Courtesy of Southern California Edison).



Plan of Mill Creek No. 3 Sandbox. (Plan Courtesy of Southern California Edison).



Section View of Mill Creek 3 Sandbox (Courtesy of Southern California Edison)



Plan view of Mill Creek 3 Sandbox. (Courtesy of Southern California Edison)